SANTA CRUZ BIOTECHNOLOGY, INC.

glypican-5 siRNA (m): sc-145458

BACKGROUND

Glypicans are thought to activate or control the activity of morphogens and growth factors, thereby influencing cellular division, regulation of cell growth and differentiation. Neuronal growth and repair are also thought to be controlled by glypicans. Glypican-5 is also known as GPC5 and is a 572 amino acid protein. Glypican-5 is primarily expressed in adult brain tissue (where it is localized to neurons), but is also detected in fetal brain, lung and liver. Glypican-5 is a member of the glypican-related integral membrane proteoglycan family (GRIPS), which is characterized as having a core protein that is able to use glycosyl phosphatidylinositol to attach to the cytoplasmic membrane. Upregulation of glypican-5 has been found in active multiple sclerosis plaques, suggesting that glypican-5 may be involved in pathogenesis of multiple sclerosis. Upregulation of glypican-5 has also been recognized as having a strong correlation with lymphomas, as well as other tumors.

REFERENCES

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2. Veugelers, M., et al. 1997. Characterization of glypican-5 and chromosomal localization of human GPC5, a new member of the glypican gene family. Genomics 40: 24-30.
3. Paine-Saunders, S., et al. 1999. GPC6, a novel member of the glypican gene family, encodes a product structurally related to GPC4 and is co-localized with GPC5 on human chromosome 13. Genomics 57: 455-458.
4. Veugelers, M., et al. 2001. A 4-Mb BAC/PAC contig and complete genomic structure of the GPC5/GPC6 gene cluster on chromosome 13q32. Matrix Biol. 20: 375-385.
5. De Cat, B. and David, G. 2001. Developmental roles of the glypicans. Semin. Cell Dev. Biol. 12: 117-125.
6. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 602446. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. Yu, W., et al. 2003. GPC5 is a possible target for the 13q31-q32 amplification detected in lymphoma cell lines. J. Hum. Genet. 48: 331-335.

CHROMOSOMAL LOCATION

Genetic locus: Gpc5 (mouse) mapping to 14 E4.

PRODUCT

glypican-5 siRNA (m) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see glypican-5 shRNA Plasmid (m): sc-145458-SH and glypican-5 shRNA (m) Lentiviral Particles: sc-145458-V as alternate gene silencing products.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

glypican-5 siRNA (m) is recommended for the inhibition of glypican-5 expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

glypican-5 (F-3): sc-390838 is recommended as a control antibody for monitoring of glypican-5 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor glypican-5 gene expression knockdown using RT-PCR Primer: glypican-5 (m)-PR: sc-145458-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.